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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,445	11/26/2003	Jorge R. Serrano	C0034	1197

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EXAMINER

MAYO, TARA L

ART UNIT PAPER NUMBER

3671

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/724,445

Applicant(s)

SERRANO ET AL.

Examiner

Tara L. Mayo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15, 17-29 and 31-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3-14, 32-37 and 39-45 is/are allowed.
- 6) ☒ Claim(s) 2, 15, 17-28 and 31 is/are rejected.
- 7) ☒ Claim(s) 1, 29 and 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “armor layer” as set forth in claims 17 through 19 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Per the claims as originally filed, the recited limitation “wherein a major dimension of the jacket is compressed by about five percent or more when inserted into the channel” lacks antecedent basis in the Specification.

Claim Objections

3. Claims 1, 29, 31 and 38 are objected to because of the following informalities:
dependence upon a canceled claim.

With regard to each claims 1, 29 and 38, it is unclear whether “a portion of the length” refers to the duct or channel. For the purposes of prosecution on the merits, the Examiner has considered the limitation to refer to the channel.

With regard to claim 31, change the dependency of the claim. For the purposes of prosecution on the merits, the Examiner has considered the claim to be dependent upon claim 29.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The prior rejection of claims 26 and 43 under 35 USC §112, second paragraph has been overcome by the response filed 20 October 2004.

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5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 2, 15, 17 through 28 and 31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The Specification fails to provide support for the claimed limitation of a major dimension of the jacket being compressed by about five percent or more when inserted into the channel.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 15 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Mottine et al. (U.S. Patent No. 6,037,546 A).

Mottine et al. '309, as seen in Figures 2 and 3, shows a duct suitable for being securely held in a channel cut in a paved surface comprising:

with regard to claim 15,

an inner tube (23); and

a jacket (34), the jacket generally surrounding the inner tube, the jacket being formed from a foamed material (col. 9, lines 9 through 11) that is compressible so when the duct is placed within the channel a major dimension of the jacket is capable of being compressed by about five percent or more, thereby forming a friction fit between the duct and the channel; and

with regard to claim 23,

the jacket being formed from a heat resistant material (i.e., polyvinylidene fluoride or PVDF).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

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evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 17 through 19, 22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mottine et al. (U.S. Patent No. 6,037,546 A) in view of Register et al. (U.S. Patent No. 6,049,647 A).

Mottine et al. '546 teach all of the limitations of the claimed invention with the exception(s) of:

with regard to claims 17, 22 and 24,

an armor layer;

with regard to claim 18,

the armor layer being formed from helically wrapped tape;

with regard to claim 19,

the armor layer being formed from longitudinally wrapped tape; and

with regard to claim 22,

the duct having a non-round cross-section.

Register et al. '647, as seen in Figure 2, shows a composite fiber optic cable (10') comprising an inner tube (32), an outer jacket (60) and an armor layer of (37) of helically or longitudinally wrapped tape (col. 5, lines 51 through 61) for effecting a water blocking layer.

With regard to claims 17 through 19, 22 and 24, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the device shown by Mottine et al. '546 such that it would include an armor layer between the tube and the jacket as taught by Register et al. '647 to provide a water blocking layer.

With regard to claim 22, Mottine et al. '546 as modified above by Register et al. '647 fail to teach a duct having a non-round cross section. However, it has been held that a mere change in shape is a matter of choice which one having ordinary skill in the art would find obvious at the time of invention absent evidence of significance or criticality. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

12. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mottine et al. (U.S. Patent No. 6,037,546 A) in view of Washburn (U.S. Patent No. 5,678,609 A).

Mottine et al. '546 teach all of the limitations of the claimed invention with the exception(s) of:

with regard to claim 20,

the inner tube having ribs.

Washburn '609, as seen in Figure 2, shows a duct comprising an inner tube (27) and a jacket (25, 34 and 26, collectively), wherein the inner tube includes ribs (44) formed on its inner surface (56) for reducing the coefficient of friction of fiber optic cable sheaths passing there through.

With regard to claim 20, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device shown by Mottine et al. '546 such that it would include ribs on the inner surface of the inner tube as taught to be desirable by Wahsburn '609. The motivation would have been to reduce the friction coefficient along the inner surface of the inner tube.

13. Claims 21 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mottine et al. (U.S. Patent No. 6,037,546 A).

With regard to claim 21, Mottine et al. '546 fail to teach a duct having a non-round cross section. However, it has been held that a mere change in shape is a matter of choice which one having ordinary skill in the art would find obvious at the time of invention absent evidence of significance or criticality. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

With regard to claim 28, Mottine et al. '546 disclose the claimed invention except for the jacket being formed from at least two layers. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the jacket of multiple layers since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

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14. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mottine et al. (U.S. Patent No. 6,037,546 A) in view of Register et al. (U.S. Patent No. 6,049,647 A) and Wahsburn (U.S. Patent No. 5,678,609 A).

Mottine et al. '546 teach all of the limitations of the claimed invention with the exception(s) of:

with regard to claim 25,

the inner tube having ribs and an armor layer generally disposed between the inner tube and the jacket.

Register et al. '647, as seen in Figure 2, shows a composite fiber optic cable (10') comprising an inner tube (32), an outer jacket (60) and an armor layer of (37) of helically or longitudinally wrapped tape (col. 5, lines 51 through 61) for effecting a water blocking layer.

Washburn '609, as seen in Figure 2, shows a duct comprising an inner tube (27) and a jacket (25, 34 and 26, collectively), wherein the inner tube includes ribs (44) formed on its inner surface (56) for reducing the coefficient of friction of fiber optic cable sheaths passing there through.

With regard to claim 25, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the device shown by Mottine et al. '546 such that it would include an armor layer between the tube and the jacket as taught by Register et al. '647 to provide a water blocking layer.

With regard to claim 25, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device shown by Mottine et al. '546 such that it would include ribs on the inner surface of the inner tube as taught to be desirable by Wahsburn '609. The motivation would have been to reduce the friction coefficient along the inner surface of the inner tube.

15. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mottine et al. (U.S. Patent No. 6,037,546 A) in view of Winter et al. (U.S. Patent No. 5,394,904 A).

Mottine et al. '546 teach all of the features of the claimed invention with the exception(s) of:

with regard to claim 26,

at least one wire wrapped about the inner tube, the wire being a conductive material;

and

with regard to claim 27,

at least one conductive material.

Winter et al. '904, as seen in Figures 20 and 21, disclose a duct (20H) comprising an electrically conductive wire helically wrapped around an inner tube (100H) for acting as a detection means (claim 17, lines 16 through 27).

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With regard to claims 26 and 27, it would have been obvious to one having ordinary skill in the art of conduits at the time the invention was made to modify the device shown by Mottine et al. '546 such that it would include at least one helically wrapped, electrically conductive wire as taught by Winter et al. '904. The motivation would have been to provide the device with a means for detecting moisture within the jacket.

Double Patenting

16. Applicant is advised that should claim 17 be found allowable, claim 24 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Allowable Subject Matter

17. Claims 3 through 14, 32 through 37 and 39 through 45 are allowed.

18. Claims 1, 29 and 38 would be allowable if rewritten or amended to overcome the objection for minor informalities set forth in the above Office action.

19. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

20. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach a fiber optic installation structure or method wherein a duct having an inner tube and a jacket is disposed in a channel defined by a paved surface (a paved surface being any one of the surfaces listed on page 3 of the Remarks filed by Applicant 20 October 2004), the duct being disposed in the channel such that a friction fit is created between the duct and the channel over a portion of the length of the channel. Fiber optic cable laying in paved surfaces is a young art and the prior art related thereto is limited. Moreover, the claimed invention provides the benefit of minimal disruption to roadways and accommodated vehicular traffic in that excavation is not required and the optical cable is held in place as it is laid thereby eliminating the necessity for additional equipment and labor.

Response to Arguments

21. Applicant's arguments, see page 3 at line 32 through page 4, filed 20 October 2004, with respect to claims 1 through 14 and 29 through 45 have been fully considered and are persuasive. The rejection of all the claims has been withdrawn.

22. Applicant's arguments, see page 1 at line 15 through page 3 at line 4, filed 20 October 2004, with respect to the rejection(s) of claim(s) 15 through 28 under 35 USC 102(b) and 103(a) as being unpatentable over Winter et al. '904 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further

consideration, a new ground(s) of rejection is made in view of Mottine et al. '546, Register et al. '647 and Wahsburn '609.

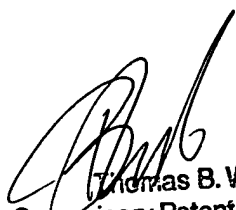
Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tara L. Mayo whose telephone number is 703-305-3019. The examiner can normally be reached on Monday through Friday 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on 703-308-3870. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Thomas B. Will
Supervisory Patent Examiner
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17 December 2004